

WA Commingled Recycling Improvements Project:

Preventing Contamination
at the Curb, MRF and Mill

Project Update
W2RAC
March 20, 2012

Shannon McClelland



DEPARTMENT OF
ECOLOGY
State of Washington



Workgroup Update

▶ Southwest Region

- **Phase 1 – Data gathering (1st year)**
 - Glass Summit
 - *Beyond the Curb* Report (2010)
- **Phase 2 – Creating Tools for Program Consistency (2nd / 3rd year)**
 - Expanded Membership
 - *BMP Guide for Gov's on Program Materials* (2011)
 - Carton Forum
 - *BMP Guide for Public Outreach* (TBA 2012)
- **Phase 3 – Implementation (4th year)**
 - Anticipated start date – Summer

Expanded Southwest Consistency

► Phase 2 – Creating Tools for Program Consistency

- *BMP Guide for Gov's on Program Materials*
 - Visual of Yes, No & Use Caution list based on data in our report
 - Completed September 2011
- *BMP Guide for Gov's on Public Outreach*
 - Primer on commingled outreach using consistent messages and images
 - Intended audience is outreach staff and volunteers (*Not the general public*)
 - In progress and near completion

What to Include in Your Residential Commingled Recycling Collection Program:

A best management practices guide for governments

The purpose of this guide is to illustrate what an ideal commingled collection program would include if the focus of the program was to ensure best and highest use of recyclable materials and maximize their market value. It is intended to be used by local governments in Washington as a tool to inform policymakers on decisions on what to include in their programs and why.

The Expanded Southwest Region Commingled Workgroup created this guide as part of the statewide WA Commingled Recycling Improvements Project. It is based on the group's report, *Beyond the Curb – Tracking the Commingled Residential Recyclables from Southwest WA* (June 2010), and represents the consensus of the Workgroup members, which includes stakeholders from local governments, haulers, MRFs/processors, and end-users. The full report can be found at <http://www.ecy.wa.gov/pubs/1007009.pdf>.

For questions about this guide or the WA Commingled Recycling Improvements Project, please contact:

Shannon McClelland

Waste 2 Resources Program

(360) 407.6398 Shannon.McClelland@ecy.wa.gov



Publication no. 11-07-026

To ask about the availability of this document in a format for the visually impaired, call the Waste 2 Resources Program at 360-407-6900. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.



Yes ✓

Include in your commingled cart:



Paper: Newspaper (w/inserts), phone directories, non-refrigerated paper food boxes, printer and notebook paper, unwanted mail/catalogues, magazines, paper bags and corrugated boxes are all compatible with commingled collection and processing systems, and are wanted by local and export end-use markets either as news, mixed or corrugated grades.



Plastics: PET and HDPE bottles and jugs—clear, colored and natural—are all compatible with commingled collection and processing systems, are understood by the public, have good value, and are wanted by local and export end-use markets either as PET, HDPE, or mixed grades. Non-bottle rigid plastic containers have domestic and strong export markets. It has a high value for the bulk since it is heavy and easier to sort than lighter, thinner plastic containers.



Metals: Steel cans, aluminum cans, and metal pots and pans are all compatible with commingled collection and processing systems, are understood by the public, have good to excellent value and are wanted by local end-use market as either used beverage container grade or scrap steel.

Empty, dry, no lids, flatten if made of paper

No

DO NOT include in your commingled cart:



Glass: Because glass breaks—unlike the other commodities—it poses significant problems and hazards for the processing and end-use parts of the commingled system. Not only does it contaminate the paper, but because it has been commingled, its potential end-uses are dramatically reduced from an environmental and economic standpoint.



Paper: Greasy or soiled paper is not wanted by end-users and is considered contamination. Shredded paper falls through the processing system at the MRF and ends up as litter or as fines (garbage).

Plastics: Plastic film and bags cause significant problems for the processor as it wraps around machinery. Plastic drinking cups, trays and clamshells are easily flattened in the collection and processing system and end up mixed in with the paper and not recycled. Plastic caps and lids fall through the processing system and end up in the paper or the fines (garbage). Hazardous materials or medical waste are safety hazards for MRF employees and should not be commingled.

Metal: Very small pet food cans are collected in such small amounts that they cannot reasonably be separated and end up as a contaminant in the paper. Long, flexible or heavy scrap metals are a hazard—no chains, wires or auto parts. Lids that are not firmly attached to a can are a safety issue for MRF staff, get stuck to the paper or lost in the fines and are not recovered.

Collect separately, take to a drop off location or put in the garbage

Use Caution

Talk with your hauler, MRF and end-users to decide if these materials make sense to include in your commingled cart:



Paper: Paper products that held liquids or were intended to be refrigerated (polycoated, aseptic and wet strength) are designed not to break down in water. This property makes them undesirable at news and kraft mills where they are considered a contaminant. Yield losses of these materials when pulped are at, or close to, 100%. If gabletops and aseptic containers are separated during processing and baled separately, they can be recycled at tissue mills. Egg cartons in paper bales are prohibited by Chinese customs due to possible food contamination. Pieces of paper smaller than a postcard will likely fall through the processing system and will not get recovered.



Plastics: Bottles smaller than 8oz may fall through the processing system and may not get recovered. Clear plastic containers made of PS or PVC are commonly read as PET by the optical sorters and get sorted into the PET bottle bales, in which they are not compatible. MRFs that use hand sorters instead of, or in addition to, optical sorters may be able to process PS or PVC containers.



Metals: Aerosol cans can pose problems on the collection system if they are not empty, causing a mess (paint) or a hazard to the driver (pesticides). Aluminum trays, plates, and foil are collected in such small amounts that they cannot be reasonably separated at MRFs. They end up as a contaminant in paper bales because they are easily flattened and move through the processing system like paper. Steel scrap metal that is heavy or long can cause safety hazards for both the collection and processing system. It can also lead the consumer to think of the commingled recycling cart as having the ability to accept everything.

Ask: Is this material getting recycled?

Public Outreach for Your Residential Commingled Recycling Collection Program:

A best management practices guide for governments

Curbside pickup is an important first step in the residential commingled recycling process. Consistent messages within and across jurisdictions to residents on what to include in their commingled carts and why, will create less confusion and result in higher quality materials entering the MRF. Higher quality materials that enter the MRF mean that more materials will actually be sent on to the intended manufacturers—where the actual recycling occurs.

The purpose of this guide is to create consistent messages and images for programs **which focus is** to ensure best and highest use of recyclable materials and maximize their market value. It is intended to be used by local government public outreach staff in Washington as a tool to inform the public on what to include in their recycling cart and why. This guide can be used for planning purposes, in training new staff or volunteers, or its messages can directly be used in a jurisdiction's outreach methods – website, brochure, presentations, displays, social marketing, etc. It is not intended to be distributed to the public, as is; but rather, to be used by staff in communicating with the public.

The Expanded Southwest Region Commingled Workgroup created this guide as part of the statewide WA Commingled Recycling Improvements Project. It is a follow-up to the guide titled, *What to Include in Your Residential Commingled Recycling Collection Program: A Best Management Practices Guide for Governments* (July 2011). Both BMP guides are based on the group's report, *Beyond the Curb – Tracking the Commingled Residential Recyclables from Southwest WA* (June 2010), and represents the consensus of the Workgroup members, which includes stakeholders from local governments, haulers, MRFs/processors, and end-users. The full report, and links to both BMP guides, can be found at <http://www.ecy.wa.gov/biblio/1007009.html>.

Contents (LINKS): *History of Waste (p. 2), Product Lifecycle (p. 3), Evolution of Curbside Programs in WA (p.4), ...*

Note: Because of the dynamic nature of the industry, this will be reviewed annually and updated if necessary by the Workgroup.

For questions about this guide or the WA Commingled Recycling Improvements Project, please contact:

Shannon McClelland, Waste 2 Resources Program
(360) 407.6398 Shannon.McClelland@ecy.wa.gov



To ask about the availability of this document in a format for the visually impaired, call the Waste 2 Resources Program at 360-407-6900. Persons with hearing loss, call 711 for Washington Relay Service. Persons with a speech disability, call 877-833-6341.



Public Outreach Best Management Practices Guide

The Evolution of Curbside Recycling Programs in WA

Just as the types and volumes of waste have changed over the years, curbside recycling programs have changed to keep up – especially in the last 10 years. One major change is the shift to automated collection as a way to increase tons collected, while reducing collection costs and worker injuries.

Collection

Then: Late 1980s (First curbside programs)

Now: 1998 to present



Stacked bins

Manual

Dual-Stream – Cart + bin

Automated Commingled

Singlestream cart

Outreach

As collection programs have changed, so has the outreach to residents. The focus has shifted from wordy brochures and extensive Yes/No lists to reliance on photos, descriptions of container shape, and a focus on what goes in which bin – rather than a 'No' list.

Old Version

Yes/No Style

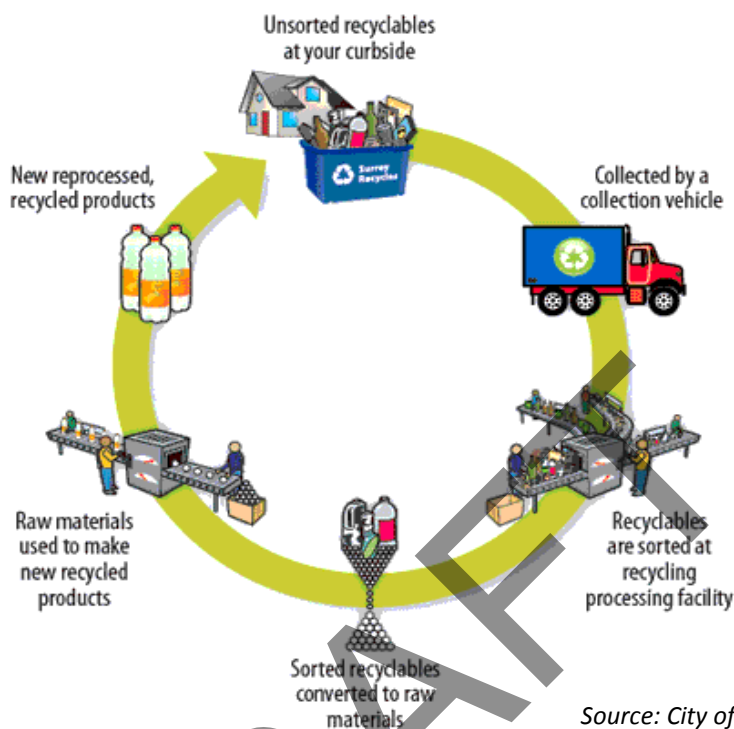


Recycling, Garbage, Organics

(Small pics of each – Sheryl can shrink)

Public Outreach Best Management Practices Guide

How Does the Commingled Recycling System Work?



Benefits of a commingled system

For a collection system, there are many benefits for choosing an automated, single cart approach. Reduced worker injuries and more efficient route times mean lower costs for collection. Because there is less or no sorting by the residents, there is increased participation. In addition, the increased capacity of the cart allows for higher collection volumes and the ability for programs to add materials without having to invest in more bins. Automated carts have a lid and wheels which improves public convenience and privacy, and prevents material from blowing out of the bins, keeps pests from getting in, and keeps materials drier making them easier to process and worth more in the marketplace.

Limitations of a commingled system

The major limitation of a commingled recycling system is what is mixed together must then be separated. Many of the benefits on the collection side of the system can cause problems for the processors, and in turn, the end-use manufacturers. Some materials like glass, plastic film and flattened containers are difficult to separate once mixed together and can cause contamination for other materials (usually, paper) and problems with equipment. The increase in collection volumes and participation can overwhelm the processing system, causing cross

Preparation

Empty
Quick rinse
No loose lids
Do not flatten or crush

METAL (New photos – pots and pans)

Material Accepted	Notes/Examples	
Steel/Tin Cans Aluminum Cans Pots and Pans	Tuna size (6oz) or bigger Do not crush Plastic handles and non-stick pans OK	
Material Not Accepted	Because:	
Small Pet Food Cans Auto Parts Loose Lids (from steel or tin cans) Ammunition Alkaline Batteries Rechargeable Batteries Sharps/Syringes	Fall through processing systems Safety hazard for processors Fall through processing systems Safety hazard Fire hazard Hazardous waste Safety hazard	
Material May Not Be Accepted	Because:	
Aluminum trays, pie plates and foil Aerosol cans Scrap Metal—long, heavy, large, and/or flexible Paint cans	Not compatible with aluminum can markets Collected in small amounts, difficult to separate at MRF Safety hazard Safety hazard Paint residue, potential hazardous material	

Key Messages

- Empty; Quick rinse; No loose lids; Do not flatten or crush
- All metal is recyclable, but is not always appropriate in the commingled cart